

Appl. No. 10/629367

In the Claims:

Listing of all claims:

1 1. (Currently Amended) A stand alone welding
2 power supply comprising;
3 a primary mover mechanically coupled to a rotating
4 shaft;
5 a generator having a rotor mechanically coupled to
6 the shaft, and further having a stator magnetically
7 coupled to the rotor, whereby the generator provides a
8 generator output;
9 an inverter having an inverter input in electrical
10 communication with the generator output, wherein the
11 inverter inverts power from the inverter input to
12 provide an inverter output;
13 a controller coupled to the primary mover and
14 having a feedback input; and
15 a feedback circuit coupled to the welding inverter
16 output and the feedback input wherein a feedback signal
17 responsive to at least one welding inverter output
18 operating parameter is provided to the feedback input.

1 2. (Original) The power supply of claim 1
2 wherein the primary mover includes a speed control and the
3 controller includes an output coupled to the speed control,
4 wherein the speed of the primary mover is controlled in
5 response to the feedback signal.

1 3. (Original) The power supply of claim 2
2 wherein the speed control includes an idle/run selector for
3 selecting between an idle speed and a run speed in response
4 to the feedback signal.

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1 4. (Original) The power supply of claim 1
2 wherein the controller includes means for controlling at
3 least one of a throttle position, a fuel pump, an injection
4 timer, a fuel to air ratio, fuel consumption and ignition
5 timing.

1 5. (Currently Amended) The power supply of
2 claim 1 wherein the at least one operating parameter is
3 welding an inverter current.

1 6. (Currently Amended) The power supply of
2 claim 1 wherein the at least one operating parameter is
3 welding an inverter voltage.

1 7. (Currently Amended) The power supply of
2 claim 5 wherein the at least one operating parameter further
3 includes welding an inverter voltage.

1 8. (Original) The power supply of claim 7
2 wherein the feedback circuit includes a multiplier, wherein
3 the multiplier multiplies signals representative of voltage
4 and current to obtain a signal representative of power, and
5 further wherein the feedback circuit includes an integrator
6 to integrate the signal representative of power.

1 9. (Original) The power supply of claim 2
2 further including a rectifier that couples the inverter to
3 the ac output, and wherein the inverter includes at least
4 one input energy storage device that stores rectified energy
5 and wherein the controller causes the primary mover to
6 increase speed when the energy stored decreases past a
7 threshold.

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1 10. (Original) The power supply of claim 1
2 wherein the operating parameter is a function of a ripple in
3 the output.

1 11. (Currently Amended) The power supply of
2 claim 1 further including a rectifier coupled to the
3 inverter output to provide a dc welding inverter output.

1 12. (Original) The power supply of claim 1
2 wherein the generator is a dc generator.

1 13. (Currently Amended) The power supply of
2 claim 1 wherein the generator is an ac dc generator, and the
3 inverter ~~includes~~ includes an input rectifier.

1 14. (Currently Amended) A stand alone welding
2 power supply comprising;
3 a primary mover mechanically coupled to a rotating
4 shaft;
5 a generator having a rotor mechanically coupled to
6 the shaft, and further having a stator magnetically
7 coupled to the rotor, whereby the generator provides a
8 generator output;
9 an inverter having an inverter input in electrical
10 communication with the generator output, wherein the
11 inverter inverts power from the inverter input to
12 provide an inverter output;
13 control means, coupled to the primary mover and
14 having a feedback input, for controlling the primary
15 mover; and
16 feedback means, coupled to the welding inverter
17 output and the feedback input, for providing a feedback

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18 signal responsive to at least one welding inverter
19 output operating parameter to the feedback input.

1 15. (Original) The power supply of claim 14
2 wherein the primary mover speed control means for
3 controlling the primary mover's speed, and the control means
4 includes an output coupled to the speed control means,
5 wherein the speed of the primary mover is controlled in
6 response to the feedback signal.

1 16. (Original) The power supply of claim 15
2 wherein the speed control means includes an idle/run
3 selector means for selecting between an idle speed and a run
4 speed in response to the feedback signal.

1 17. (Original) The power supply of claim 14
2 wherein the control means includes means for controlling at
3 least one of a throttle position, a fuel pump, an injection
4 timer, a fuel to air ratio, fuel consumption and ignition
5 timing.

1 18. (Currently Amended) The power supply of
2 claim 14 wherein the at least one operating parameter is
3 welding inverter current.

1 19. (Currently Amended) The power supply of
2 claim 14 wherein the at least one operating parameter is
3 welding inverter voltage.

20-39. (Cancelled.)

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1 40. (New) The power supply of claim 18 wherein the
2 at least one operating parameter further includes inverter
3 voltage.

1 41. (New) The power supply of claim 40 wherein the
2 feedback means includes a multiplier means for multiplying
3 signals representative of voltage and current to obtain a
4 signal representative of power, and further wherein the
5 feedback means includes an integrator means for integrating
6 the signal representative of power.

1 42. (New) The power supply of claim 15 wherein the
2 inverter includes at least one input energy storage means
3 for storing energy to be inverted by the inverter, and
4 wherein the control means further includes means for
5 increasing primary mover's speed when the energy stored
6 decreases past a threshold.

1 43. (New) The power supply of claim 14 wherein the
2 operating parameter is a function of a ripple in the output.

1 44. (New) The power supply of claim 14 further
2 including a rectifier means coupled to the inverter output
3 for providing a dc inverter output.

1 45. (New) The power supply of claim 14 wherein the
2 generator is a dc generator.

1 46. (New) The power supply of claim 14 wherein the
2 generator is an ac dc generator and the inverter includes a
3 rectifier.

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1 47. (New) A method of providing power
2 comprising;
3 generating an electrical output with an engine and
4 generator;
5 inverting the electrical input to provide an ac
6 inverter output;
7 controlling the engine using feedback indicative
8 of an inverter output operating parameter.

1 48. (New) The method of claim 47 wherein the
2 engine speed is controlled in response to the feedback.

1 49. (New) The method of claim 48 wherein the step
2 of controlling includes the step of selecting between an
3 idle speed and a run speed in response to the feedback.

1 50. (New) The method of claim 47 wherein the step
2 of controlling includes controlling at least one of a
3 throttle position, a fuel pump, an injection timer, a fuel
4 to air ratio, fuel consumption and ignition timing.

1 51. (New) The method of claim 48 including the
2 step of providing feedback responsive to an inverter
3 current.

1 52. (New) The method of claim 48 including the
2 step of providing feedback responsive to an inverter
3 voltage.

1 53. (New) The method of claim 48 including the
2 step of providing feedback responsive to an inverter power.

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1 54. (New) The method of claim 43 wherein step of
2 providing feedback further includes the steps of multiplying
3 signals representative of voltage and current to obtain a
4 signal representative of power, and integrating the signal
5 representative of power.

1 55. (New) The method of claim 58 further including
2 the step of storing energy after rectification and wherein
3 the step of controlling includes the step of increasing
4 engine speed when the energy stored decreases past a
5 threshold.

1 56. (New) The method of claim 51 wherein the
2 feedback is responsive to a ripple in the output.

1 57. (New) The method of claim 51 further including
2 the step of rectifying the inverter output to provide a dc
3 inverter output.

1 58. (New) The method of claim 47 wherein the step
2 of generating includes the step of generating a dc output.

1 59. (New) The method of claim 47 wherein the step
2 of generating includes the step of generating an ac dc
3 output and the step of inverting includes the step of
4 rectifying.